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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,150	10/27/2003	Aspy Keki Mehta	2003B107	3010

23455 7590 03/17/2005

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EXAMINER

ZEMEL, IRINA SOPJIA

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 03/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/694,150	MEHTA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Irina S. Zemel	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/20/04</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Double Patenting***

Claims 1, 3-4, and 17 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 13 of U.S. Patent No. 6,809,168. The references patents claim a n article, including a foamed article, that comprises the base polypropylene (as per claim 10 of the patent) that fully correspond to the claimed base polymer in all of the claimed properties. As per claim 13, the article can be a foamed article, which, inherently, comprises an expanded polymer and blwoing agent. Thus, claimed expanded resins would have been obvious from foamed articles comprising identical base polymer.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9, 12-13 and 15-18 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6, 809,168 to Argawal et al., (hereinafter "Argawal '168").

Agarwal '168 discloses a copolymer resin comprising up to 99.999 weight percent of an olefin, such as polypropylene, and from about 0.001 weight percent of an  $\alpha$ - $\omega$  diene, wherein the copolymer base resin has a weight average molecular weight of about 30,000 to 500,000 Daltons, a crystallization temperature of about 115 C to 135 C,

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and a melt flow rate of about 0.1 dg/min to 100 dg/min. See, for example, abstract. Among suitable  $\alpha$ - $\omega$  dienes, all dienes listed in claim 2 are expressly disclosed in column 6, lines 16-32. The base copolymer is obtained by metallocene copolymerization reaction, see column 4, lines 28-37, and col. 6, line 39 et seq. for description of suitable metallocene catalysts. The properties of the base propylene copolymer disclosed throughout the specification, especially columns 4 and 5 fully correspond to the properties claimed in claims 5-8. The reference further expressly discloses expanded resins comprising the base copolymer as discussed above and a blowing agent such as combination of sodium bicarbonate and citric acid in column 27, line 59 to column 28, line 16. The reference further expressly teaches a process for producing expanded polypropylene –based resins that fully correspond to the processes claimed in claims 16 and 18 and articles obtained by those processes. See columns 27-29.

The invention as claimed ,thus, is fully anticipated by the cited reference.

### ***Claim Rejections - 35 USC § 102/103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11, 15 and 17 rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 2002/0013440 to Agarwal et al., (hereinafter "Agarwa '440").

Agarwal '440 discloses a copolymer resin comprising up to 99.999 weight percent of an olefin, such as polypropylene, and from about 0.001 weight percent of an  $\alpha$ - $\omega$  diene, wherein the copolymer base resin has a weight average molecular weight of about 30,000 to 500,000 Daltons, a crystallization temperature of about 115 C to 135 C, and a melt flow rate of about 0.1 dg/min to 100 dg/min. See, for example, abstract. Among suitable  $\alpha$ - $\omega$  dienes, all dienes listed in claim 2 are expressly disclosed in [0041-42]. The base copolymer is obtained by metallocene copolymerization reaction, see [0044-55] for description of suitable metallocene catalysts. The properties of the base propylene copolymer disclosed in [0031-34] fully correspond to the properties claimed in claims 5-8. The reference in [0086] expressly discloses that the base copolymer is suitable for manufacturing foamed articles, thus disclosing an expanded resins and thus clearly envisaging resins comprising the base propylene copolymer and a blowing agent as incorporating blowing agent in compositions comprising a polymer is the most common way to obtain expanded polymeric compositions, as disclosed in Encyclopedia of Chemical Technology, by Kirk-Othmer, Fourth Edition, vol. 11, at pages 748-819, which are incorporated by reference and referred to in [0086] of Agarwal '440.

The reference is silent as to the branching index of the base propylene copolymer and its ability to being expanded into the foamed articles with specified bulk

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density as per claims 9-11. However, since the copolymers disclosed in the Agarwal '440 reference are identical to the claimed base propylene copolymers and are obtained by the same method, it is reasonable believed that the claimed properties are inherently exhibited by the polymers disclosed in the Agarwal '440 reference. The burden is shifted to the applicants to provide evidence to the contrary.

Claims 10-11 is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Agarwal '168.

The disclosure of the Agarwal '168 reference is discussed above.

The reference is silent as to the branching index of the base propylene copolymer and its ability to being expanded into the foamed articles with specified bulk density as per claims 9-11. However, since the copolymers disclosed in the Agarwal '168 reference are identical to the claimed base propylene copolymers and are obtained by the same method, it is reasonable believed that the claimed properties are inherently exhibited by the polymers disclosed in the Agarwal '168 reference. The burden is shifted to the applicants to provide evidence to the contrary.

### ***Claim Rejections - 35 USC § 103***

Claims 12-14 and 16,18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agarwal '440 in combination with applicants disclosure of admitted prior art and Polymer Technology Dictionary by T. Whelan, page 45 (hereinafter "Dictionary").

The disclosure of the Agarwal '440 reference is discussed above. The reference does not expressly disclose blowing agents of the specific steps of obtaining the foamed article. However, the claimed blowing agents and foaming steps would have been clearly obvious choice of an ordinary artisan, since the claimed agents and steps are the most notoriously known agents and steps in production of foamed polypropylene-based articles, as evidenced from the applicants own disclosure of well known foaming processes and steps (referring to the in Encyclopedia of Chemical Technology, by Kirk-Othmer, Fourth Edition, vol. 11, see applicants disclosure [81]), and Dictionary, page 45.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Agarwal '168 in combination with Dictionary.

The disclosure of Agarwal '168 is discussed above. The reference does not expressly disclose gaseous blowing agent as a suitable blowing agent for the foams taught by the reference. However, as discussed above, gases, such as claimed nitrogen gas, are notoriously known blowing agents for polyolefin-based foams, as evidenced by Dictionary, and use of a notoriously well known foaming agent in foamed compositions disclosed by Agarwal '168 would have been obvious with reasonable expectation of adequate results absent showing of unexpected results that can be clearly attributed to the use of gaseous (nitrogen) foaming agent.

The invention as claimed, thus would have been obvious from the combined disclosure of the cited references and choice of foaming steps and foaming agents

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would have been an obvious choice of an ordinary artisan with reasonable expectation of adequate results absent showings to the contrary.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Irina S. Zemel  
Examiner  
Art Unit 1711



ISZ